# EXHIBIT 2

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1 of 3

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**APPEAL BRIEF**

**BOARD OF PATENT APPEALS AND INTERFERENCES**

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|---|---|
| In re application of | **Donald J Hejna** |
| Application No | **07/851,903** |
| For | **RANDOM ACCESS INFORMATION RETRIEVAL UTILIZING USER-DEFINED LABELS** |
| Filed | **March 16, 1992** |
| Examiner | **J Homere** |
| Group Art Unit | **2307** |
| Date | Jan 26, 1995 |

CERTIFICATE OF MAILING PURSUANT TO 37 CFR §1 8

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Commissioner of Patents and Trademarks
Washington, D C. 20231

Michael B Einschlag Date Jan 26, 1995

Michael B Einschlag Esq
Reg No 29 301

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THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D C 20231

Sir

Applicant or patent owner hereby submits the Appeal Brief in triplicate in the above-captioned matter along with a check for $140 00 to cover the fee for a brief in support of appeal

Respectfully submitted,
Michael B Einschlag
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Attorney for Applicant

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(1) **Status of Claims**

Claims 1-29 are canceled and claims 30-81 are pending in the application Claims 30-81 are rejected Claims 30-81 are appealed

(2) **Status of Amendment**

A response was made to an office action finally rejecting claims 30-81 However, the response did not amend any of the pending claims

(3) Summary of the Invention

In general, the present invention relates to method and apparatus for storing information, for example, audio information, as "data" and for storing information as "labels" wherein a user defines labels which are associated with (for, example, by pointer) the "data" and wherein the user stores the labels in a data structure, for example, a hierarchical data structure (A data structure is defined at p 226 of the IEEE Standard Dictionary of Electrical and Electronics Terms, ANSI/IEEE Std 100-1984, Third Edition, Published by the Institute of Electrical and Electronics Engineers, Inc , New York, NY, Distributed in cooperation with Wiley-Interscience a division of John Wiley & Sons, Inc ("IEEE DICT") as "A formalized representation of the ordering and accessibility relationships among data items, without regard to their actual storage configuration " and a hierarchy data structure is defined in the IEEE DICT at p 412 as "A structure whose components are ranked into levels of subordination according to a specific set of rules ") To understand this concept of "labels" and "data," refer to the specification at p 12 lines 3-11 which relates to a hierarchical structure of "labels" where the information is speech information

> A label is an identifier which refers to speech information For example, the speech information may comprise a few sentences and the label may comprise one or two words from the sentences which, for optimum utilization, enables a user to identify the information For example, speech information may comprise a shopping list for a birthday and the label may comprise the words "shopping list "

In accordance with the present invention, information is entered and stored in response to user input Information is designated as "data" by user input **while the information**

**is being received by user input** To understand this concept refer to the specification at p 15, lines 17-23 and FIG 4

> a user first inputs information To do this in the preferred embodiment, the user presses record-pad 151 on keypad 50 and starts speaking into microphone 35 --in the preferred embodiment of the present invention, **the user presses record-pad 151 for the duration of time that the user is inputting speech When the user releases record-pad 151, speech is no longer stored in the data base**

Also refer to p 29, line 2 to p 30, line 14 and FIG 5

> If CPU 10, in conjunction with data and programs stored in memory 20, determines that the user wishes to provide speech input, the following steps occur CPU 10, in conjunction with programs stored in memory 20, obtains the address of an empty module from the module segment "free-list" and obtains the address of a free page of memory from the data segment "free-list " Then, CPU 10 stores the address of the free page of memory in the acquired data module (the one to which the free list pointer points) in memory 20 at an offset address referred to as DATA_START_ADDR --see FIG 5 As the user speaks into microphone 45, CPU 10 receives digital representations of the speech from A/D converter 30 CPU 10 transfers the data, in a compressed or uncompressed form, to memory 20 for storage at increasing addresses on the memory page whose address is stored in DATA_START_ADDR In the preferred embodiment, as recording continues, data received from A/D converter 40 is written to subsequent pages from the data segment "free-list" of data base pages stored in memory 20 In the preferred embodiment, the first storage location on each page is reserved and is used to store the location of the next page so as to provide a linked list of memory pages for the input speech In the preferred embodiment, whenever the user releases the record pad, a signal is input to CPU 10 and, in response, CPU 10 determines whether the last address at which data is stored on the latest memory page corresponds to an address on the second half of the page If so, the remainder of the page is filled with silence and the page is removed from the data segment "free-list " However, if the address corresponds to an address on the first half of the page, the page is returned to the data segment "free-list" and the previous page address is stored in

DATA_END_ADDR Lastly, the address of the last page of memory that contains data from the message is stored in the data module at an offset address referred to as DATA_END_ADDR --see FIG 5

In accordance with the present invention a "label" may be formed in three ways (a) all or a portion of information which is being input and designated as "data" can be designated as a "label" by user input **while the information is being received by user input**, (b) information which has been stored and designated as "data" can be conveyed to the user (for example, by replaying it to the user) and all or a portion of the conveyed information can be designated as a "label" by user input **while the information is being replayed to a user**, and (c) information which is being input can be designated as a "label" by user input **while the information is being received by user input** To understand this concept refer to the specification at p 30, line 17 to p 32, line 22 and FIGs 1, 4, and 5

Labels may be formed in one of three ways (a) in the first way, a label is comprised of a portion of input speech, (b) in the second way, a label is comprised of a portion of replayed speech, and (c) in the third way, a label is comprised of different information In the first way of forming labels, the user defines a label while the user is recording speech To do this, the user presses label-record-pad 152 on keypad 50 while recording --in the preferred embodiment of the present invention, **the user presses label-record-pad 152 for the duration of time that the input speech corresponds to a label** In response to the pressing of label-record-pad 152, a signal is input to CPU 10 In response, CPU 10 determines the address in memory 20 which is currently being used to store data and CPU 10 stores this address in the data module at an offset address LABEL_START_ADDR When label-record-pad 152 is released, a signal is input to CPU 10 In response, CPU 10 determines the address in memory 20 which is currently being used to store data and CPU 10 stores this address in the data module at an offset address LABEL_END_ADDR In the second way of forming labels, the user defines a label while speech is replayed from storage To do this, **the user first presses replay-pad 153 and then presses and releases label-record-pad 152 to indicate which portion of the replayed speech is to be the label** CPU 10 responds to the pressing and releasing of label-record-pad 152 to store the addresses of the data in the same manner as was described above for the first way of forming labels Lastly, in the third way of forming labels the user records speech which is used solely as a

> label To do this, **the user presses label-record-pad 152 on keypad 50 while the user inputs speech** In response to the pressing of label-record-pad 152, a signal is input to CPU 10 In response, CPU 10, in conjunction with programs stored in memory 20, obtains the address of an empty module from the module segment "free-list" and obtains the address of a free page of memory from the data segment "free-list " Then, CPU 10 stores the address of the free page of memory in the acquired data module in memory 20 at an offset address referred to as LABEL_START_ADDR As the user speaks into microphone 45, CPU 10 receives digital representations of the speech from A/D converter 30 CPU 10 transfers the data, in a compressed or uncompressed form, to memory 20 for storage at increasing addresses on the memory page whose address is stored in LABEL_START_ADDR As recording continues, data received from A/D converter 40 is written to subsequent pages from the data segment "free-list" of data base pages stored in memory 20 In the preferred embodiment, whenever the user releases label-record pad 152, a signal is input to CPU 10 and, in response, CPU 10 determines whether the last address at which data is stored on the latest memory page corresponds to an address on the second half of the page If so, the remainder of the page is filled with silence and the page is removed from the data segment "free-list " However, if the address corresponds to an address on the first half of the page, the page is returned to the data segment "free-list" and the previous page address is stored in LABEL_END_ADDR Lastly the address of the last page of memory that contains data from the message is stored in the data module at an offset address referred to as LABEL_END_ADDR

In accordance with the present invention, a location in the data structure for a "label" is selected by user input and the "label" may be entered at that location To understand this concept refer to the specification at p 17, line 5 to p 18, line 11 and FIGs 1 and 4

> The following describes the tools which are provided to search for a desired location in a hierarchy For purposes of the following discussion we define a positional marker we will call a "cursor " The cursor specifies a current location in the hierarchy In an embodiment with only audio playback for feedback the cursor position is defined as the last label played In other embodiments, a graphical marker or a screen grid may be used to indicate the cursor position in the hierarchy The hierarchy is traversed as follows

The user presses up-pad 51 to move the cursor up the hierarchy in a string of "child" labels --if the user reaches the top of the hierarchy, i e , the root node, a special tone is played over speaker 45 to indicate this fact and, if the user reaches the top of the string of "child" labels, a special tone is played over speaker 45 to indicate this fact, the user presses down-pad 52 to move the cursor down the hierarchy in a string of "child" labels --if the user reaches the bottom of the string of "child" labels, a special tone is played over speaker 45 to indicate this fact, the user presses right-pad 53 to move the cursor to the right along a string of "peer" labels --if the user reaches the end of the string of "peer" labels a special tone is played over speaker 45 to indicate this fact, and the user presses left-pad 54 to move the cursor to the left along a string of "peer" labels --if the user reaches the end of the string of "peer" labels, a special tone is played over speaker 45 to indicate this fact As the cursor reaches a label in the hierarchy, the label will be played over speaker 45 If the user wishes to insert a new label to the right of the cursor, i e , a "highlighted" label, as a "peer" label, then the user presses insert-pad 154 and right-pad 53, however, if the user wishes to insert the new label beneath the cursor, i e , the "highlighted" label, as a "child" label, then the user presses insert-pad 154 and down-pad 52

Also refer to p 33, line 10 to p 37, line 12 and FIGs 1, 4, and 5

A root node resides at the top of the hierarchical structure of apparatus 200, the root node resides at a fixed location, for example, (0x00000010), and cannot be removed Data modules are inserted below the root node to provide a user-defined hierarchical structure The addition of a module to an existing hierarchical structure is done by searching the hierarchical structure for a desired point at which the new module is to be entered and then entering the module specified by the user as follows As was described above, a cursor specifies a current location in the hierarchy In an embodiment with only audio for feedback, the cursor position is defined as the last label played In other embodiments, a graphical marker or a screen grid may be used to indicate the cursor position in the hierarchy The hierarchy is traversed as follows The user presses up-pad 51 to move the cursor up the hierarchy in a string of "child" labels The pressing of the pad causes a signal to be sent to CPU 10 In response, CPU 10 retrieves TOP_LABEL_ADDR from the current module If this points to the root node, indicating that the user has

reached the top of the hierarchy, CPU 10 retrieves a digital representation of a signal and sends it to D/A 40 which causes a special tone to be played over speaker 45 to indicate this fact Similarly, if TOP_LABEL_ADDR indicates that the user has reached the top of a string of "child" labels, CPU 10 causes a special tone to be played over speaker 45 to indicate this fact Otherwise, current_module register 171 becomes the address indicated by TOP_LABEL_ADDR In conjunction with this search mode of operation, CPU 10 examines TOP_LABEL_ADDR, BOTTOM_LABEL_ADDR, LEFT_LABEL_ADDR, and RIGHT_LABEL_ADDR to determine whether the user may move the cursor up, down, to the left, or to the right in the hierarchy If any of the movements are proper for the particular hierarchy, CPU 10 generates signals to cause respective ones of direction arrows 161-164 to be lighted Thus, for example, if the cursor is in the middle of a "child" label string where there are no "peer" labels, then only the up-arrow and down arrows are lighted As those of ordinary skill in the art will readily appreciate, in a particular embodiment of the present invention, predetermined unique addresses are used to indicate that an address points to the root node, the top of a string of "child" labels, the end of a string of "peer" labels, and so forth

The user presses down-pad 52 to move the cursor down the hierarchy in a string of "child" labels The pressing of the pad causes a signal to be sent to CPU 10 In response, CPU 10 retrieves BOTTOM_LABEL_ADDR from the current data module If this points to the end of the string of "child" labels, CPU 10 retrieves a digital representation of a signal and sends it to D/A converter 40 which causes a special tone to be played over speaker 45 to indicate this fact Otherwise, current_module register 171 becomes the address indicated by BOTTOM_LABEL_ADDR

The user presses right-pad 53 to move the cursor to the right along a string of "peer" labels The pressing of the pad causes a signal to be sent to CPU 10 In response, CPU 10 retrieves RIGHT_LABEL_ADDR from the current data module If this points to the end of the string of "peer" labels, CPU 10 retrieves a digital representation of a signal and sends it to D/A converter 40 which causes a special tone to be played over speaker 45 to indicate this fact Otherwise, current_module register 171 becomes the address indicated by RIGHT_LABEL_ADDR

The user presses left-pad 54 to move the cursor to the left along a string of "peer" labels The pressing of the pad causes a signal to be sent to CPU 10 In response, CPU 10 retrieves LEFT_LABEL_ADDR from the current module If this points to the end of the string of "peer" labels, CPU 10 retrieves a digital representation of a signal and sends it to D/A converter 40 which causes a special tone to be played over speaker 45 to indicate this fact Otherwise, current_module register 171 becomes the address indicated by LEFT_LABEL_ADDR

As the cursor reaches a label in the hierarchy, the label will be played over speaker 45 This is done as CPU 10 retrieves LABEL_START_ADDR and LABEL_END_ADDR from the current module Then, CPU 10 retrieves the data, starting at LABEL_START_ADDR and transfers a digital representation of the speech, decompressed if necessary, to D/A converter 40 to cause the label to be played over speaker 45

When the user wishes to insert a new label to the right of the cursor as a "peer" label, then the user presses insert-pad 154 and right-pad 53, however, if the user wishes to insert the new label beneath the cursor as a "child" label, then the user presses insert-pad 154 and down-pad 52 The pressing of the pads causes signals to be sent to CPU 10 In response, CPU 10 determines the desired place of insertion and inserts the current data module into the hierarchy by adjusting pointers TOP_LABEL_ADDR, BOTTOM_LABEL_ADDR, RIGHT_LABEL_ADDR and LEFT_LABEL_ADDR in a manner which is well known to those of ordinary skill in the art to provide a doubly-linked list

If the user is operating in the first, second, third, or fourth modes, a label will be inserted into the hierarchy when CPU 10 detects the pressing of insert-pad-154 Whenever a new label is entered into the hierarchy, the user receives confirmation because CPU 10 sends a signal which causes indicator light 137 to turn on for a brief period of time

If the user is operating in the fifth mode, CPU 10 will update the LABEL_START_ADDR and LABEL_END_ADDR pointers for the selected label when it detects the pressing of record-pad 151 and insert-pad 154 and the subsequent release of either record-pad 151 or insert-pad 154 Initially, CPU 10 examines DATA_START_ADDR for the data module of the

selected label If this pointer indicates that information is already associated with the label, CPU 10 deletes that information in a manner to be described below before it goes about the task of resetting the appropriate pointers for the new input information

In accordance with the present invention, information may be retrieved, deleted and reordered These concepts are described in the specification (a) (for retrieval) at p 20, line 6 to p 21, line 25 and p 37, line 14 to p 38, line, 21, (b) (for deletion) at p 22, lines 2-15 and p 39, lines 2-24, and (c) (for reordering) at p 22, line 17 to p 23, line 16 and p 40, line 2 to p 41, line 3

Present claims 30-57 are methods and apparatus which provide a data structure of "labels" which are associated with "data" (stored information) In order to provide the data structure of "labels" which are associated with the "data" several actions must occur Information must be input by a user, the information must be designated as either being "data" and/or a "label," and stored A location in the data structure must be found for the "label " The "label" must be inserted into the data structure Finally, the "data" must be associated with the "label" so that one may retrieve it when the "label" is retrieved from the data structure The particular steps and the particular pieces of apparatus which accomplish these actions have been described above and present claims 30-57 set forth the ordering of the steps of the methods and the combinations of the pieces of apparatus In accordance with claims 30-57, as has been described above, it is important to note that information is designated by user input as "data" **while the information is being received by user input** and that information is designated by user input as a "label" **while the information is being received by user input or while the information is being replayed to a user**

Present claims 58-81 differ from present claims 30-57 in that present claims 58-81 require (a) the "data" and the "labels" to be audio information and (b) the data structure to be a hierarchical data structure

As one can readily appreciate, storing "labels" in a data structure and associating "labels" with "data" enables a user to access the "data" randomly and to delete and to manipulate the "labels" along with their associated "data " Further, this provides a basic advantage of the present invention which is the ability of the user to customize "data" access by enabling the user to define customized "labels" and to specify their placement in the data structure In a preferred application, the user creates "labels" which are condensed versions of the "data" and, as a result,

the user can quickly ascertain the content of the "data" by retrieving "labels " i e , the condensed version of the data

The following then briefly summarizes the invention of the various claims

**Claim 30** relates to a method for storing information provided by a user wherein information is entered, stored and designated as "data" by user input **while the information is being received** and at least some of the information is designated as a "label" by user input **while the information is being received** Next, a location is determined in the data structure for the "label" in response to user input and an indication of a location in the data structure is provided Next, in response to user input, the "label" is stored at the location in the data structure, and the "label" is associated with the "data," for example, by using a pointer

**Claim 31** relates to a method for storing information provided by a user wherein information is entered, stored and designated as "data" by user input **while the information is being received** Next, in response to user input, the stored information is conveyed to the user (for example, by replaying audio information) and at least a portion of the stored information is designated as a "label" by user input **while the stored information is being conveyed to the user** Next, a location is determined in a data structure for the "label" in response to user input and an indication of a location in the data structure is provided Next, in response to user input, the "label" is stored at the location in the data structure, and the "label" is associated with the "data," for example, by using a pointer

**Claim 32** relates to a method for storing information provided by a user wherein a first piece of information and a second piece of information are entered by user input The first piece of information is stored and designated as "data" by user input **while the first piece of information is being received**, and the second piece of information is designated as a "label" by user input **while the second piece of information is being received** Next, a location is determined in the data structure for the "label" in response to user input and an indication of a location in the data structure is provided Next, in response to user input, the "label" is stored at the location in the data structure, and the "label" is associated with the "data," for example, by using a pointer

**Claim 33** relates to a method for storing information provided by a user wherein a location is determined in a data structure for a "label" in response to user input and an indication

of the location in the data structure is provided Next, information is entered, stored and designated as "data" by user input **while the information is being received** and at least some of the information is designated as a "label" by user input **while the information is being received** Next, in response to user input, the "label" is stored at the location in the data structure, and the "label" is associated with the data, for example, by using a pointer

**Claim 34** relates to a method for storing information provided by a user wherein a location is determined in a data structure for a "label" in response to user input and an indication of the location in the data structure is provided Next, information is entered stored and designated as "data" by user input **while the information is being received** Next in response to user input, the stored information is conveyed to the user (for example, by replaying audio information) and at least a portion of the stored information is designated as a "label" by user input **while the stored information is being conveyed to the user** Next, in response to user input, the "label" is stored at the location in the data structure, and the "label" is associated with the "data," for example, by using a pointer

**Claim 35** relates to a method for storing information provided by a user wherein a location is determined in a data structure for a "label" in response to user input and an indication of the location in the data structure is provided Next, a first piece of information and a second piece of information are entered by user input The first piece of information is stored and designated as "data" by user input **while the first piece of information is being received**, and the second piece of information is designated as a "label" by user input **while the second piece of information is being received** Next, in response to user input, the "label" is stored at the location in the data structure and the "label" is associated with the "data," for example, by using a pointer

**Claim 36** relates to a method for storing information provided by a user wherein information is entered and stored in response to user input and at least some of the information is designated as a "label" by user input **while the information is being received** Next, a location is determined in a data structure for the "label" in response to user input and an indication of the location in the data structure is provided Next in response to user input, the "label" is stored at the location in the data structure Next, further information is entered, stored and designated as "data" by user input **while the information is being received** Next, the location in the data structure for the "label" is determined in response to user input and an indication of the location in

the data structure is provided Next, in response to user input, the "label" is associated with the "data," for example, by using a pointer

**Claim 37** relates to a method for storing information provided by a user wherein a location is determined in a data structure for a "label" in response to user input and an indication of the location in the data structure is provided Next, information is entered and stored in response to user input and at least some of the information is designated as a "label" by user input **while the information is being received** Next, in response to user input, the "label" is stored at the location in the data structure Next, further information is entered, stored and designated as "data" by user input **while the information is being received** Next, the location in the data structure for the "label" is determined in response to user input and an indication of the location in the data structure is provided Next, in response to user input, the "label" is associated with the "data," for example, by using a pointer

**Claim 38** is the invention of claim 33 in apparatus form

**Claim 39** depends from claim 38 and further comprises means, in response to user input, for conveying the stored information to the user and for designating at least a portion of the stored information as the "label " As a result, a user can form a "label" by designating information upon input or by, for example, replaying stored information and designating at least a portion of the replayed information as the "label "

**Claim 40** depends from claim 39 and further comprises means in response to user input, for receiving and storing further information and for designating the further information as a "label" while the further information is being received As a result, a user can form a "label" by entering information and designating the information as the "label "

**Claim 41** depends from claim 40 and further comprises a retrieval means in response to user input, for searching the data structure and for providing an indication of a location in the data structure, for conveying a "label" at the location to the user by, for example, playing an audio label, for conveying information associated with the "label" by, for example, playing audio information, and for conveying all "labels" and their associated information from a preselected portion of the data structure As a result, a user can retrieve "data" associated with "labels," which "labels" are retrieved from the data structure

**Claim 42** depends from claim 41 and further comprises means for deleting information designated as "data" and for deleting "labels" from the data structure

**Claim 43** depends from claim 42 and further comprises means for switching the position of "labels" in the data structure

**Claim 44** depends from claim 38 wherein the search means further comprises indicator means for providing an indication of the location in the data structure

**Claim 45** depends from 45 wherein the indicator means conveys a "label" at the location by, for example, playing the "label "

**Claim 46** depends from claim 44 wherein the indicator means further comprises means for indicating another location in the data structure besides the location it is indicating in response to the user input

**Claim 47** depends from claim 40 and further comprises means, in response to user input, for searching the data structure to find a "label," for causing further information to be received stored and designated as "data," and for associating the "data" with the stored "label," for example, by use of a pointer

**Claim 48** relates to an apparatus for storing information provided by a user which includes a search means, in response to user input, for traversing a data structure and for providing an indication of a location in the data structure, means, in response to user input, for receiving, storing and designating the information as "data" while the information is being received, means for designating at least a portion of the information as a "label" while the information is being received, and means for storing the "label" at the location in the data structure and associating the "label" with the "data," for example by using a pointer

**Claim 49** depends from claim 48 and further comprises means, in response to user input, for conveying the stored information to the user and for designating at least a portion of the stored information as the "label " As a result, a user can form a "label" by designating information upon input or by, for example, replaying stored information and designating at least a portion of the replayed information as a "label "

**Claim 50** depends from claim 49 and further comprises means in response to user input, for receiving and storing further information and for designating the further information as a "label" while the further information is being received As a result, a user can form a "label" by entering information and designating the information as the "label "

**Claim 51** depends from claim 50 and further comprises a retrieval means in response to user input, for searching the data structure and for providing an indication of a location in the data structure, for conveying a "label" at the location to the user by for example, playing an audio "label," for conveying information associated with the "label" by, for example, playing audio information, and for conveying all "labels" and their associated information from a preselected portion of the data structure As a result, a user can retrieve "data" associated with "labels " which "labels" are retrieved from the data structure

**Claim 52** depends from claim 51 and further comprises means for deleting information designated as "data" and for deleting "labels" from the data structure

**Claim 53** depends from claim 52 and further comprises means for switching the position of "labels" in the data structure

**Claim 54** depends from claim 48 wherein the search means further comprises indicator means for providing an indication of the location

**Claim 55** depends from claim 54 wherein the indicator means conveys a "label" at the location by, for example, playing the "label "

**Claim 56** depends from claim 54 wherein the indicator means further comprises means for indicating another location in the data structure besides the location it is indicating in response to the user input

**Claim 57** depends from claim 50 and further comprises means, in response to user input, for searching the data structure to find a "label " for causing further information to be received, stored and designated as "data," and for associating the "data" with the stored "label," for example by using a pointer

Present claims 58-79 differ from present claims 30-57 described above in that present claims 58-79 require (a) the "data" and "labels" to be audio information and (b) the data structure to be a hierarchical data structure

Present claims 80-81 differ from present claims 46 and 56, respectively, in that present claims 80-81 require (a) the "data" and "labels" to be audio information, (b) the data structure to be a hierarchical data structure, and (c) the means for indicating another location in the hierarchical data structure of labels indicates whether the another location is above, below or on a same level in the hierarchical data structure

(4) Issue

Whether claims 30-81 are patentable under 35 U S C §103 over Izawa (U S Patent No 5,179,658) in view of Goldhor (U S Patent No 5,231,670)

(5) Grouping of Claims

Claims 30-57 stand or fall together on each ground of rejection

Claims 58-81 stand or fall together on each ground of rejection

(6) Argument

103 (As to claims 30-57)

**Izawa et al U S Patent No 5,179,658 ("Izawa")**

Izawa discloses an apparatus for storing data on an optical disk The data comes from either of two sources, a floppy disk or a scanner [Floppy disk device (magnetic disk device 28) reads text files (document data) prepared by word processors from floppy disk 28a and code data files such as CAD drawing files and work sheet files (drawing data) as prepared by personal computers **See col 4, lines 56-61** Scanner 20 scans a document by a laser beam and collects image data **See col 4, lines 52-55** Optical disk device 22 sequentially stores onto optical disk 19 the image data as read out by scanner 20 and the code data as read out by magnetic disk device 28 **See col 4, lines 64-66** ]

Izawa shows a document management system in FIG 2 which is described at **col 5, lines 46-65** as having a data hierarchy having four strata cabinet, binder document, and page A cabinet corresponds to one side of optical disk 19 and may be defined by a maximum of eight binders Each cabinet may contain up to 30,000 documents, a title is assigned to each document One document is treated as a fundamental unit of a file and each document includes a maximum of 4095 pages The page corresponds to the image data of one sheet of paper, the data of one sheet of floppy disk (volume data), the data of one file, or the data by merging the above three types of data

It is instructive to review the manner in which data is stored in accordance with Izawa This is referred to as registration processing and is described in conjunction with FIG 11

as follows at **col 9, line 27 to col 10, line 17 and at col 6, lines 16-54** In Izawa's document management system, a plurality of pages are combined into a document and a title or retrieval code is attached to each document not to each page An operator first enters a title for the document (step S1) [Keyboard 23 enters retrieval codes assigned to the code data and the image data to be stored into optical disk 19 and various commands for operations See col 4, line 67 to col 5, line 2] Then, the operator enters a keyboard command indicating whether the data to be registered is code data from floppy disk 28a or image data from optical scanner 20 (step S2) If the data is image data, a document is put on scanner 20 (step S3) [Display control module 13e checks the image data on CRT display 24 and ODR/W processing module 13d compresses and records the image data onto optical disk 19] If the data is code data a floppy is put onto disk 28, the operator enters a command indicating type of data, volume registration, normal OS file registration, or specific application file registration, and, after the data header is prepared, the files are sequentially stored on optical disk 19 If another page exists for the document, the operator returns to step S2 otherwise, for the next document, the operator returns to step S1 to enter a new title Finally, the address in optical disk 19, together with the input title data is registered on magnetic disk 27a [Magnetic disk device 27 is a hard disk device with magnetic disk 27a which stores programs retrieval codes entered from keyboard 23 (document title) and retrieval data (management data) corresponding to each retrieval code The retrieval data includes memory addresses and data size of the code data and/or the image data representing one document, which are stored in optical disk 19 with the retrieval codes assigned, and a flag to indicate the type of data code data and image data See col 5, lines 21-32]

It is also instructive to review the manner in which data is retrieved in accordance with Izawa This is described in conjunction with FIG 12 as follows at **col 10, lines 18-38** and at **col 6, line 55 to col 7, line 2** An operator enters a retrieval formula containing a retrieval key and a key word for retrieval, the retrieval key being the title of a document Using retrieval data stored in magnetic disk 27a, a list of selected documents is displayed If a desired document is not found (step S24), the retrieval formula is entered again If the desired document is found the operator selects it from the document list Then, at step S25, the first page of the document is read from optical disk 19 If next page retrieval is needed one returns to step S25

Lastly, it is instructive to review the Summary of the Invention of Izawa at **col 2, lines 12-25** which discloses a first storing means for storing image data and code data and a second storing means for storing first retrieval data for retrieving the image data and second

retrieval data for retrieving the code data The first retrieval data has a data structure for defining the retrieval data and first identifying data representing the image data and the second retrieval data has the same data structure as the data structure of the first retrieval data and second identifying data representing the code data

**In summary**, Izawa discloses a method and apparatus for storing on an optical disk either floppy disk files or scanned images of papers An operator may specify the title of a document which may be made up of several pages To add data to Izawa's system, the operator enters a title for the document and specifies the type data to be input (either files from a floppy magnetic disk or a scanned image of a paper page) After receiving the title for the document and the specification of the type of data to be input, the system inputs data from an appropriate medium (a magnetic floppy disk or optical scanner for a document) and then stores the input data on an optical disk Finally, the address of the stored input data on the optical disk and the title for the document is stored on a magnetic disk To retrieve data from Izawa's system, the operator enters the title of a document The system retrieves and displays a list of document titles If the desired document is found, the operator selects it from the document list Then the document is read from the optical disk 19, page by page, as needed

Applicant respectfully submits that the teaching of Izawa is completely different from the invention set forth in the present claims

**Present claim 30** Izawa does not teach, hint, or suggest in any manner whatsoever the method of storing information as "data" and for storing information as "labels" wherein a user defines "labels" which are associated with the "data" and wherein the user stores the "labels" in a data structure for several reasons **First**, in accordance with present claim 30, information is input and designated as "data" by the user while the information is being received from the user This is completely different from Izawa which teaches that "data" is information input from a floppy magnetic disk or from an optical scanner and that a "title" is information input from a keyboard In accordance with Izawa, the operator does not designate input information as being "data" or "title" since "data" must always be input from the floppy magnetic disk or from the optical scanner and the "title" must always be input from the keyboard In contrast to Izawa, embodiments of the present invention provide a much more flexible system since information which is to be designated as "data" and information which is to be designated as a "label" can be input by user input from the same device As a result, the user needs to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in

this regard between Izawa and the present invention is that while Izawa's operator does not designate input from the floppy magnetic disk or the optical scanner as being "data," the present invention requires the user to designate the information as "data" while the information is being received from the user **Second**, in accordance with present claim 30, information is input and at least a portion of it is designated as a "label" while the information is being received from the user As was described above, this is completely different from Izawa which teaches that the operator does not designate input as being a "title" since "data" must always be input from the floppy magnetic disk or from the optical scanner and the "title" must always be input from the keyboard In contrast to Izawa, embodiments of the present invention require the user to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Izawa and the present invention is that while Izawa's operator does not designate keyboard input as being a "title," the present invention requires the user to designate the information as being a "label" while the information is being received from the user A still further difference between Izawa and the present invention is that, in accordance with the present invention, the "label" is extracted from the incoming information As a result, the user inputs information, designates it as "data" while it is being input, and designates all or a part of it as a "label" while it is being input This is completely different from Izawa because Izawa's system cannot extract a "title" from the floppy disk files as they are being read or from the optical scanner input as it is being read in In fact, Izawa teaches away from this because Izawa requires the "title" and "data" to be entered separately **Third**, in accordance with present claim 30, a data structure is traversed and a location in the data structure is indicated in response to user input The location is used to insert a "label" and the "label" is inserted in response to user input This is completely different from Izawa which does not teach finding a location for a "title" in response to operator input In fact, it is just the opposite In accordance with the teaching of Izawa, the operator has no way to determine the location of a "title" or to require the system to enter the "title" at that location In contrast to Izawa, embodiments of the present invention provide a flexible system wherein the user can determine a location in a data structure and cause a "label" to be inserted at that location As a result of this, in accordance with the present invention, the user can define a customized access to the "data" through user-defined "labels" and user-defined placement of those "labels" in the data structure Izawa is different from the present invention because Izawa does not enable the operator to determine the location of a "label" in a data structure, Izawa merely permits the operator to enter a "title" (Izawa does not disclose how the "title" is stored, the location of the storage, and so forth) However, in this respect, the most important difference between the present invention and Izawa is that the storage of a "label" is

under the control of the user for the present invention and it is not under the control of the operator for Izawa Thus, one can create customized structures using the present invention whereas one cannot do this using the system of Izawa **Fourth**, in accordance with present claim 30, a "label" is associated with information which is input and designated as "data " This is completely different from Izawa which teaches providing a "title" and associating it with a document As taught in Izawa, a document is not "data" but is a group of pages which represent input data As a result, Izawa does not have an association between input information and a "label " This is completely different from the present invention where the "label" is associated with input information which has been designated as "data " **Fifth**, in accordance with present claim 30 information is input and designated as "data" and at least a portion of the input information is extracted as a "label " This is completely different from Izawa wherein an operator first enters a "title" and then has the system input data from either a floppy magnetic disk or an optical scanner

In light of all of the differences between the invention of present claim 30 and the disclosure of Izawa, Applicant respectfully submits that present claim 30 is patentable over Izawa

**Present claim 31** Izawa does not teach, hint or suggest in any manner whatsoever the method of storing information as "data" and for storing information as "labels" wherein a user defines labels which are associated with the "data" and wherein the user stores the labels in a data structure for several reasons **First**, in accordance with present claim 31, information is input and designated as "data" by the user while the information is being received from the user This is completely different from Izawa which teaches that "data" is information input from a floppy magnetic disk or from an optical scanner and that a "title" is information input from a keyboard In accordance with Izawa, the operator does not designate input information as being "data" or "title" since "data" must always be input from the floppy magnetic disk or from the optical scanner and the "title" must always be input from the keyboard In contrast to Izawa, embodiments of the present invention provide a much more flexible system since information which is to be designated as "data" and information which is to be designated as a "label" can be input by user input from the same device As a result, the user needs to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Izawa and the present invention is that while Izawa's operator does not designate input from the floppy magnetic disk or the optical scanner as being "data," the present invention requires the user to designate the information as "data" while the information is being

received from the user **Second**, in accordance with present claim 31 information is conveyed to a user (replayed) and at least a portion of it is designated as a "label" while the information is being conveyed to the user This is completely different from Izawa Izawa does not teach hint, or suggest replaying "data" and having the operator designate it or a portion of it as a "title" while the "data" is being replayed In fact, Izawa teaches away from this because Izawa requires the "title" to be entered by the operator from the keyboard **Third**, in accordance with present claim 31, a data structure is traversed and a location in the data structure is indicated in response to user input The location is used to insert a "label" and the "label" is inserted in response to user input This is completely different from Izawa which does not teach finding a location for a "title" in response to operator input In fact, it is just the opposite In accordance with the teaching of Izawa, the operator has no way to determine the location of a "title" or to require the system to enter the "title" at that location In contrast to Izawa, embodiments of the present invention provide a flexible system wherein the user can determine a location in a data structure and cause a "label" to be inserted at that location As a result of this, in accordance with the present invention, the user can define a customized access to the "data" through user-defined "labels" and user-defined placement of those "labels" in the data structure· Izawa is different from the present invention because Izawa does not enable the operator to determine the location of a "label" in a data structure, Izawa merely permits the operator to enter a "title" (Izawa does not disclose how the "title" is stored, the location of the storage, and so forth) However, in this respect, the most important difference between the present invention and Izawa is that the storage of a "label" is under the control of the user for the present invention and it is not under the control of the operator for Izawa Thus, one can create customized structures using the present invention whereas one cannot do this using the system of Izawa **Fourth**, in accordance with present claim 31, a "label" is associated with information which is input and designated as "data " This is completely different from Izawa which teaches providing a "title" and associating it with a document As taught in Izawa, a document is not "data" but is a group of pages which represent input data As a result, Izawa does not have an association between input information and a "label " This is completely different from the present invention where the "label" is associated with input information which has been designated as "data " **Fifth**, in accordance with present claim 31, information is input and designated as "data" and at least a portion of the input information is extracted as a "label" when the information is replayed to the user This is completely different from Izawa wherein an operator first enters a "title" and then has the system input data from either a floppy magnetic disk or an optical scanner

In light of all of the differences between the invention of present claim 31 and the disclosure of Izawa, Applicant respectfully submits that present claim 31 is patentable over Izawa

**Present claim 32** Izawa does not teach, hint, or suggest in any manner whatsoever the method of storing information as "data" and for storing information as "labels" wherein a user defines labels which are associated with the "data" and wherein the user stores the labels in a data structure for several reasons **First**, in accordance with present claim 32, first information is input and designated as "data" by the user while the first information is being received from the user This is completely different from Izawa which teaches that "data" is information input from a floppy magnetic disk or from an optical scanner and that a "title" is information input from a keyboard In accordance with Izawa, the operator does not designate input information as being "data" or "title" since "data" must always be input from the floppy magnetic disk or from the optical scanner and the "title" must always be input from the keyboard In contrast to Izawa, embodiments of the present invention provide a much more flexible system since information which is to be designated as "data" and information which is to be designated as a "label" can be input by user input from the same device As a result, the user needs to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Izawa and the present invention is that while Izawa's operator does not designate input from the floppy magnetic disk or the optical scanner as being "data," the present invention requires the user to designate the first information as "data" while the first information is being received from the user **Second**, in accordance with present claim 32, second information is input and it is designated as a "label" while the second information is being received from the user As was described above, this is completely different from Izawa which teaches that the operator does not designate input as being a "title" since "data" must always be input from the floppy magnetic disk or from the optical scanner and the "title" must always be input from the keyboard In contrast to Izawa, embodiments of the present invention require the user to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Izawa and the present invention is that while Izawa's operator does not designate keyboard input as being a "title," the present invention requires the user to designate the second information as being a "label" while the second information is being received from the user **Third** in accordance with present claim 32, a data structure is traversed and a location in the data structure is indicated in response to user input This is completely different from Izawa which does not teach finding a location for a "title" in response to operator input In fact, it is just the opposite In accordance with the teaching of Izawa, the operator has no way to

determine the location of a "title" or to require the system to enter the "title" at that location In contrast to Izawa embodiments of the present invention provide a flexible system wherein the user can determine a location in a data structure and cause a "label" to be inserted at that location As a result of this in accordance with the present invention, the user can define a customized access to the "data" through user-defined "labels" and user-defined placement of those "labels" in the data structure Izawa is different from the present invention because Izawa does not enable the operator to determine the location of a "label" in a data structure, Izawa merely permits the operator to enter a "title" (Izawa does not disclose how the "title" is stored, the location of the storage, and so forth) However, in this respect, the most important difference between the present invention and Izawa is that the storage of a "label" is under the control of the user for the present invention and it is not under the control of the operator for Izawa Thus one can create customized structures using the present invention whereas one cannot do this using the system of Izawa **Fourth**, in accordance with present claim 32, a "label" is associated with information which is input and designated as "data " This is completely different from Izawa which teaches providing a "title" and associating it with a document As taught in Izawa, a document is not "data" but is a group of pages which represent input data As a result, Izawa does not have an association between input information and a "label " This is completely different from the present invention where the "label" is associated with input information which has been designated as "data " **Fifth** in accordance with present claim 32, first information is input and designated as "data" and second information is input and designated as a "label " This is completely different from Izawa wherein an operator first enters a "title" and then has the system input data from either a floppy magnetic disk or an optical scanner

In light of all of the differences between the invention of present claim 32 and the disclosure of Izawa, Applicant respectfully submits that present claim 32 is patentable over Izawa

**Present claim 33** The analysis of the differences between the invention of present claim 33 and Izawa is essentially the same as that given above for present claim 30 However present claim 30 requires input and designation of "data" and "label" in response to user input before obtaining a location in the data structure for the "label" in response to user input whereas present claim 33 requires obtaining the location in the data structure for the "label" in response to user input before input and designation of "data" and "label" in response to user input Since all of the differences between the invention of present claim 30 and Izawa which were noted above

still exist for present claim 30, Applicant respectfully submits that present claim 33 is patentable over Izawa

**Present claim 34** The analysis of the differences between the invention of present claim 34 and Izawa is essentially the same as that given above for present claim 31 However, present claim 31 requires input and designation of "data" in response to user input and replay and designation of "label" in response to user input before obtaining a location in the data structure for the "label" in response to user input whereas present claim 34 requires obtaining the location in the data structure for the "label" in response to user input before input and designation of "data" in response to user input and replay and designation of "label" in response to user input Since all of the differences between the invention of present claim 31 and Izawa which were noted above still exist for present claim 34, Applicant respectfully submits that present claim 34 is patentable over Izawa

**Present claim 35** The analysis of the differences between the invention of present claim 35 and Izawa is essentially the same as that given above for present claim 32 However, present claim 32 requires input and designation of "data" and "label" in response to user input before obtaining a location in the data structure for the "label" in response to user input whereas present claim 35 requires obtaining the location in the data structure for the "label" in response to user input before input and designation of "data" and "label" in response to user input Since all of the differences between the invention of present claim 32 and Izawa which were noted above still exist for present claim 35, Applicant respectfully submits that present claim 35 is patentable over Izawa

**Present claim 36** Izawa does not teach, hint, or suggest in any manner whatsoever the method of storing information as "data" and for storing information as "labels" wherein a user defines labels which are associated with the "data" and wherein the user stores the labels in a data structure for several reasons **First**, in accordance with present claim 36, information is input and at least a portion of it is designated as a "label" while the information is being received from the user As was described above, this is completely different from Izawa which teaches that a "title" is always entered from a keyboard As a result Izawa provides no way for an operator to designate the keyboard input as being a title " In contrast to Izawa, embodiments of the present invention provide a much more flexible system since information which is to be designated as "data" and information which is to be designated as a "label" can be input by user input from the same device As a result, the user needs to inform the system

(designate) whether the information being received is "data" or is a "label " A further difference in this regard between Izawa and the present invention is that while Izawa's operator does not designate keyboard input as being a "title," the present invention requires the user to designate the information as being a "label" while the information is being received from the user **Second**, in accordance with present claim 36, a data structure is traversed and a location in the data structure is indicated in response to user input The location is used to insert a "label" and the "label" is inserted in response to user input This is completely different from Izawa which does not teach finding a location for a "title" in response to operator input In fact, it is just the opposite In accordance with the teaching of Izawa, the operator has no way to determine the location of a "title" or to require the system to enter the "title" at that location In contrast to Izawa, embodiments of the present invention provide a flexible system wherein the user can determine a location in a data structure and cause a "label" to be inserted at that location As a result of this, in accordance with the present invention, the user can define a customized access to the "data" through user-defined "labels" and user-defined placement of those "labels" in the data structure Izawa is different from the present invention because Izawa does not enable the operator to determine the location of a "label" in a data structure, Izawa merely permits the operator to enter a "title" (Izawa does not disclose how the "title" is stored, the location of the storage, and so forth) However, in this respect, the most important difference between the present invention and Izawa is that the storage of a "label" is under the control of the user for the present invention and it is not under the control of the operator for Izawa Thus, one can create customized structures using the present invention whereas one cannot do this using the system of Izawa **Third**, in accordance with present claim 36, further information is input and designated as "data" by the user while the further information is being received from the user This is completely different from Izawa which teaches that "data" is information input from a floppy magnetic disk or from an optical scanner and that a "title" is information input from a keyboard In accordance with Izawa, the operator does not designate input information as being "data" or "title" since "data" must always be input from the floppy magnetic disk or from the optical scanner and the "title" must always be input from the keyboard In contrast to Izawa, embodiments of the present invention provide a much more flexible system since information which is to be designated as "data" and information which is to be designated as a "label" can be input by user input from the same device As a result the user needs to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Izawa and the present invention is that while Izawa's operator does not designate input from the floppy magnetic disk or the optical scanner as being "data," the present invention requires the user to designate the

further information as "data" while the further information is being received from the user **Fourth**, in accordance with present claim 36, a data structure is traversed and a location in the data structure is indicated in response to user input In accordance with present claim 36, the "label" at the location is associated with information which is input and designated as "data " This is completely different from Izawa which teaches providing a "title" and associating it with a document As taught in Izawa, a document is not data but is a group of pages which represent input data As a result, Izawa does not have an association between input information and a "label " This is completely different from the present invention where the "label" is associated with input information which has been designated as "data "

In light of all of the differences between the invention of present claim 36 and the disclosure of Izawa, Applicant respectfully submits that present claim 36 is patentable over Izawa

**Present claim 37** The analysis of the differences between the invention of present claim 37 and Izawa is essentially the same as that given above for present claim 36 However, present claim 36 requires input and designation "label" in response to user input before obtaining a location in the data structure for the "label" in response to user input whereas present claim 37 requires obtaining the location in the data structure for the "label" in response to user input before input and designation of "label" in response to user input Since all of the differences between the invention of present claim 36 and Izawa which were noted above still exist for present claim 37, Applicant respectfully submits that present claim 37 is patentable over Izawa

**Present claim 38** Present claim 38 is an apparatus claim and the analysis of the differences between the invention of present claim 38 and Izawa is essentially the same as that given above for present claim 30 Since all of the differences between the invention of present claim 30 and Izawa which were noted above still exist for present claim 38 Applicant respectfully submits that present claim 38 is likewise patentable over Izawa

**Present claim 39** Present claim 39 is an apparatus claim which depends from present claim 38 The analysis of the differences between the invention of present claim 38 and Izawa has been set forth above However, the invention of present claim 39 is different from Izawa for the further reason that, like the discussion of present claim 31 above, it includes means for conveying information to a user (replaying) and for designating at least a portion of it a "label" while the information is being conveyed to the user In light of all the differences between the

invention of present claim 39 and Izawa, Applicant respectfully submits that present claim 39 is patentable over Izawa

**Present claim 40** Present claim 40 is an apparatus claim which depends from present claims 38-39 The analysis of the differences between the invention of present claims 38-39 and Izawa has been set forth above However, the invention of present claim 40 is different from Izawa for the further reason that, like the discussion of present claim 32 above, it includes means for receiving second information as input and for designating it as a "label" while the second information is being received from the user In light of all the differences between the invention of present claim 40 and Izawa, Applicant respectfully submits that present claim 40 is patentable over Izawa

**Present claim 41** Present claim 41 is an apparatus claim which depends from present claims 38-40 The analysis of the differences between the invention of present claims 38-40 and Izawa has been set forth above However, the invention of present claim 41 is different from Izawa for the following further reason An apparatus fabricated in accordance with present claim 41 comprises means for retrieving information which includes a means for traversing the data structure of "labels" and for providing an indication of a location in the data structure This is completely different from Izawa since Izawa does not provide means for traversing a data structure, i e , even if there is a data structure of "titles" in Izawa, the operator is not given the ability to select locations therein In light of all the differences between the invention of present claim 41 and Izawa, Applicant respectfully submits that present claim 41 is patentable over Izawa

**Present claim 42** Present claim 42 is an apparatus claim which depends from present claims 38-41 The analysis of the differences between the invention of present claims 38-41 and Izawa has been set forth above However, the invention of present claim 42 is different from Izawa for the following further reasons **First**, an apparatus fabricated in accordance with present claim 42 comprises means for deleting "labels" and associated information which includes a means for traversing the data structure "label" and for providing an indication of a location in the data structure This is completely different from Izawa since Izawa does not provide means for traversing a data structure, i e , even if there is a data structure of "titles" in Izawa, the operator is not given the ability to select locations therein as is the case for the present invention **Second**, an apparatus fabricated in accordance with present claim 42 comprises means for deleting "labels" and associated information which includes a means for deleting all

labels and their associated information from a preselected portion of the data structure Izawa provides no hint or suggestion for providing this capability In light of all the differences between the invention of present claim 42 and Izawa, Applicant respectfully submits that present claim 42 is patentable over Izawa

**Present claim 43** Present claim 43 is an apparatus claim which depends from present claims 38-42 The analysis of the differences between the invention of present claims 38-42 and Izawa has been set forth above However, the invention of present claim 43 is different from Izawa for the following further reason An apparatus fabricated in accordance with present claim 42 comprises means for switching the location of two "labels" in the data structure This is completely different form Izawa since Izawa does not teach, hint or suggest providing this capability in any manner whatsoever Further, in accordance with present claim 43, in switching "labels," the apparatus includes means for traversing the data structure of "labels" and for providing an indication of a first and an indication of a second location in the data structure of "labels " As was set forth above, this is completely different from Izawa since Izawa does not provide means for traversing a data structure, i e , even if there is a data structure of "titles" in Izawa, the operator is not given the ability to select locations therein In light of all the differences between the invention of present claim 43 and Izawa, Applicant respectfully submits that present claim 43 is patentable over Izawa

**Present claim 44** Present claim 44 is an apparatus claim which depends from present claim 38 The analysis of the differences between the invention of present claim 38 and Izawa has been set forth above However, the invention of present claim 44 is different from Izawa for the following further reason An apparatus fabricated in accordance with present claim 44 comprises a search means which includes means for providing an indication of the location of a "label" in the data structure This is completely different from Izawa since Izawa does not provide means for traversing a data structure, i e , even if there is a data structure of "titles" in Izawa, the operator is not given the ability to select locations therein i e , even if there is a data structure of "titles" in Izawa, the operator is not given the ability to select locations therein In light of all the differences between the invention of present claim 44 and Izawa, Applicant respectfully submits that present claim 44 is patentable over Izawa

**Present claim 45** Present claim 45 is an apparatus claim which depends from present claims 38 and 44 The analysis of the differences between present claims 38 and 44 and Izawa has been set forth above In light of all the differences between the invention of present

claim 45 and Izawa, Applicant respectfully submits that present claim 40 is likewise patentable over Izawa

**Present claim 46** Present claim 46 is an apparatus claim which depends from present claims 38 and 44-45 The analysis of the differences between the invention of present claims 38 and 44-45 and Izawa has been set forth above However, the invention of present claim 46 is different from Izawa for the following further reasons An apparatus fabricated in accordance with present claim 46 includes means for indicating another location in the data structure This is completely different from Izawa since Izawa does not provide means for traversing a data structure, i e , even if there is a data structure of "titles" in Izawa, the operator is not given the ability to select locations therein Further, Izawa does not teach or even hint at providing a capability to identify one location in the data structure and to indicate the location of another In light of all the differences between the invention of present claim 46 and Izawa, Applicant respectfully submits that present claim 46 is likewise patentable over Izawa

**Present claim 47** Present claim 47 is an apparatus claim which depends from present claims 38-40 The analysis of the differences between the invention of present claims 38-40 and Izawa has been set forth above However, the invention of present claim 41 is different from Izawa for the following further reasons An apparatus fabricated in accordance with present claim 47 further includes means for searching a data structure of labels to provide the location in the data structure of a stored "label", for receiving and storing information and for designating it as data and for causing the info input means to receive and store further information, for causing the data to be associated with the stored label As was set forth above, this is completely different from Izawa since Izawa does not provide means for traversing a data structure, i e , even if there is a data structure of "titles" in Izawa, the operator is not given the ability to select locations therein Further, Izawa does not teach or suggest adding "data" to existing documents In light of all the differences between the invention of present claim 47 and Izawa, Applicant respectfully submits that present claim 47 is likewise patentable over Izawa

**Present claims 48-57** Present claims 48-57 are apparatus claims The analysis of the differences between the inventions of present claims 48-57 and Izawa are the same as those given above for the inventions of present claims 38-47 Since all of the differences between the inventions of present claims 38-47 and Izawa which were noted above still exist for present claims

48-57, Applicant respectfully submits that present claims 48-57 are likewise patentable over Izawa

**Goldhor et al U S Patent No 5,231,670 ("Goldhor")**

Goldhor teaches a method and apparatus for inputting speech, "recognizing" words and phrases in the speech, and converting the recognized words and phrases to text In accordance with Goldhor (referring to FIG 1), speech is input to microphone 12 and microphone 12 transfers speech signals to speech signal processor 14 Speech processor 14 converts the speech signals into digital speech event data and transmits this data to processor 15 to be processed by speech event analyzer 16 Speech event analyzer 16 generates a list of possible candidates that represent the speech input Speech event analyzer 16 transmits the candidate list to dictation event subsystem 18 which analyzes the candidate list and chooses a "BEST MATCH " Then, dictation event subsystem 18 forwards the BEST MATCH as a translation to text event subsystem 20 which in turn inputs the translated text to an application **See col 3, lines 37-60** and **FIG 1**

A principal feature of Goldhor's system is its ability to control and modify system operation through verbal commands that allow a user to refer directly to earlier events in dictation process (the system identifies control commands for use in text editing) For example, "Scratch that" is identified by the recognizer as a special phrase and, in response, the system deletes text entered as a result of the previous speech event As another example, "Forward N" causes the data entry position of the application to be moved forward to a position N text events from its current position **See col 9, line 22 to col 13, line 6**

A speech event is an occurrence in the speech signal of an event interpreted as a word or phrase by the recognizer and a dictation event record is a formal data object that describes the speech event The recognizer stores information for each speech event in a dictation event database and provides techniques for performing operations on the dictation event database **See col 4, lines 18-26** FIG 2 shows a dictation event record 30 of the dictation event database Chronological relationship info element 34 includes addresses or pointers to other dictation event records created immediately before and immediately after the current dictation event record, candidate set information element 36 contains information relating to each of the potential recognition candidates that is chosen by speech event analyzer 16, best match candidate element 38 indicates the candidate chosen as the best match, and recognizer performance information

element 42 stores an internal representation of the waveform (for use, for example, in playback) **See col 4, line 30 to col 5, line 16**

After a dictation event is processed, a text event is created and stored in a text event database Referring to FIG 3, each text event record 50 contains data describing an input event, for example reception of a translation from the recognizer Unlike dictation events, text events can have hierarchical relationships with each other Hierarchical relationship information element 56 identifies text events which are immediately superior or immediate inferior to itself Text event record 50 also stores a data element that stores the textual relationship so that actual text may be linked, i e , any two consecutive items of text can be identified as being consecutive so that the system may jump around to different text events and still maintain proper order of outputting text All translations are accompanied by the dictation event handle of the dictation event that describes that speech event This data element enables the system, at a subsequent point in time, to retrieve a dictation event handle and instruct the recognizer to perform a dictation event operation such as resetting the recognizer state **See col 6, line 37 to col 8, line 38**

In summary, Goldhor teaches a speech operated, text editing, dictation system The system has a speech recognition portion that translates speech input and transfers the translations to a text application portion that acts as an interface to an application program such as a word processor The translations are stored in a linked list data base In order to operate as a text editing, dictation machine, the system recognizes certain speech input as commands The commands are used, in conjunction with the linked list data base, to perform editing functions such as deleting previously entered speech or moving forward over previously entered speech

Applicant respectfully submits that the teaching of Goldhor is completely different from the invention set forth in the present claims

**Present claim 30** Goldhor does not teach, hint, or suggest in any manner whatsoever the method of storing information as "data" and for storing information as "labels" wherein a user defines labels which are associated with the "data" and wherein the user stores the labels in a data structure for several reasons **First**, in accordance with present claim 30, information is input and designated as "data" by the user while the information is being received from the user This is completely different from Goldhor which receives speech input which is always considered to be "data" and does not receive speech input which is designated as a "label "

Thus, in accordance with Goldhor, the operator cannot designate speech input as "data" or as a "label " In contrast to Goldhor, embodiments of the present invention provide a much more flexible system since information which is to be designated as "data" and information which is to be designated as a "label" can be input by user input from the same device As a result, the user needs to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Goldhor and the present invention is that while Goldhor's operator does not designate speech input as being "data," the present invention requires the user to designate the information as "data" while the information is being received from the user **Second**, in accordance with present claim 30, information is input and at least a portion of it is designated as a "label" while the information is being received from the user As was described above, this is completely different from Goldhor which does not teach or suggest that an operator designates speech input as a "label " In contrast to Goldhor, embodiments of the present invention require the user to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Goldhor and the present invention is that while Goldhor's operator does not designate speech input as a "label," the present invention requires the user to designate the information as being a "label" while the information is being received from the user A still further difference between Goldhor and the present invention is that, in accordance with the present invention, the "label" is extracted from the incoming information As a result, the user inputs information, designates it as "data" while it is being input, and designates all or a part of it as a "label" while it is being input This is different from Goldhor because Goldhor's system does not teach or suggest that an operator designates speech input as a "label " **Third**, in accordance with present claim 30, a data structure is traversed and a location in the data structure is indicated in response to user input The location is used to insert a "label" and the "label" is inserted in response to user input This is completely different from Goldhor which does not teach finding a location for a "label" in response to operator input In fact, it is just the opposite In accordance with the teaching of Goldhor, the operator has no way to determine the location of speech input which was designated as a "label" (there is no such designation) or to require the system to enter the speech input at that location as a "label " In contrast to Goldhor, embodiments of the present invention provide a flexible system wherein the user can determine a location in the data structure and cause a "label" to be inserted at that location As a result of this, in accordance with the present invention, the user can define a customized access to the "data" through user-defined "labels" and user-defined placement of those "labels" in the data structure Goldhor is different because Goldhor does not enable the operator to determine the location of a "label" in a data structure, Goldhor merely permits the operator to

enter speech input Thus, one can create customized structures using the present invention whereas one cannot do this using the system of Goldhor **Fourth**, in accordance with present claim 30, a "label" is associated with information which is input and designated as "data " This is completely different from Goldhor which teaches providing a speech input and associating it with a translation As a result, Goldhor does not have an association between input information and a "label " This is completely different from the present invention where the "label" is associated with input information which has been designated as "data " **Fifth**, in accordance with present claim 30, information is input and designated as "data" and at least a portion of the input information is extracted as a label This is completely different from Goldhor wherein an operator enters speech input and there is no "label "

In light of all of the differences between the invention of present claim 30 and the disclosure of Goldhor, Applicant respectfully submits that present claim 30 is patentable over Goldhor

**Present claim 31** Goldhor does not teach, hint, or suggest in any manner whatsoever the method of storing information as "data" and for storing information as "labels" wherein a user defines labels which are associated with the "data" and wherein the user stores the labels in a data structure for several reasons **First**, in accordance with present claim 31, information is input and designated as "data" by the user while the information is being received from the user This is completely different from Goldhor which receives speech input which is always considered to be "data" and does not receive speech input which is designated as a "label " Thus, in accordance with Goldhor, the operator cannot designate speech input as "data" or as a "label " In contrast to Goldhor, embodiments of the present invention provide a much more flexible system since information which is to be designated as "data" and information which is to be designated as a "label" can be input by user input from the same device As a result, the user needs to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Goldhor and the present invention is that while Goldhor's operator does not designate speech input as being "data," the present invention requires the user to designate the information as "data" while the information is being received from the user **Second**, in accordance with present claim 31, information is conveyed to a user (replayed) and at least a portion of it is designated as a "label" while the information is being conveyed to the user This is completely different from Goldhor Goldhor does not teach hint, or suggest replaying "data" and having the operator designate it as a "label" while the information is

being replayed In fact, Goldhor teaches away from this because Goldhor does not teach or suggest that an operator designates speech input as a "label " **Third**, in accordance with present claim 31, a data structure is traversed and a location in the data structure is indicated in response to user input The location is used to insert a "label" and the "label" is inserted in response to user input This is completely different from Goldhor which does not teach finding a location for a "label" in response to operator input In fact, it is just the opposite In accordance with the teaching of Goldhor, the operator has no way to determine the location of speech input which was designated as a "label" (there is no such designation) or to require the system to enter the speech input at that location as a "label " In contrast to Goldhor, embodiments of the present invention provide a flexible system wherein the user can determine a location in the data structure and cause a "label" to be inserted at that location As a result of this, in accordance with the present invention, the user can define a customized access to the "data" through user-defined "labels" and user-defined placement of those "labels" in the data structure Goldhor is different because Goldhor does not enable the operator to determine the location of a "label" in a data structure, Goldhor merely permits the operator to enter speech input Thus, one can create customized structures using the present invention whereas one cannot do this using the system of Goldhor **Fourth**, in accordance with present claim 31, a "label" is associated with information which is input and designated as "data " This is completely different from Goldhor which teaches providing a speech input and associating it with a translation As a result, Goldhor does not have an association between input information and a "label " This is completely different from the present invention where the "label" is associated with input information which has been designated as "data " **Fifth**, in accordance with present claim 31, information is input and designated as "data" and at least a portion of the input information is extracted as a "label " This is completely different from Goldhor wherein an operator enters speech input and there is no "label "

In light of all of the differences between the invention of present claim 31 and the disclosure of Goldhor, Applicant respectfully submits that present claim 31 is patentable over Goldhor

**Present claim 32** Goldhor does not teach, hint or suggest in any manner whatsoever the method of storing information as "data" and for storing information as "labels" wherein a user defines labels which are associated with the "data" and wherein the user stores the labels in a data structure for several reasons **First**, in accordance with present claim 32, first information is input and designated as "data" by the user while the first information is being

received from the user This is completely different from Goldhor which receives speech input which is always considered to be data and does not receive speech input which is designated as a "label " Thus, in accordance with Goldhor the operator cannot designate speech input as "data" or as a "label " In contrast to Goldhor, embodiments of the present invention provide a much more flexible system since information which is to be designated as "data" and information which is to be designated as a "label" can be input by user input from the same device As a result the user needs to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Goldhor and the present invention is that while Goldhor's operator does not designate speech input as being "data," the present invention requires the user to designate the first information as "data" while the first information is being received from the user **Second**, in accordance with present claim 32, second information is input and it is designated as a "label" while the second information is being received from the user As was described above, this is completely different from Goldhor which does not teach or suggest that an operator designates speech input as a "label " In contrast to Goldhor, embodiments of the present invention require the user to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Goldhor and the present invention is that while Goldhor's operator does not designate speech input as a "label," the present invention requires the user to designate the second information as being a "label" while the second information is being received from the user **Third**, in accordance with present claim 32 a data structure is traversed and a location in the data structure is indicated in response to user input The location is used to insert a "label" and the "label" is inserted in response to user input This is completely different from Goldhor which does not teach finding a location for a "label" in response to operator input In fact, it is just the opposite In accordance with the teaching of Goldhor, the operator has no way to determine the location of speech input which was designated as a "label" (there is no such designation) or to require the system to enter the speech input at that location as a "label " In contrast to Goldhor, embodiments of the present invention provide a flexible system wherein the user can determine a location in the data structure and cause the "label" to be inserted at that location As a result of this, in accordance with the present invention, the user can define a customized access to the "data" through user-defined "labels" and user-defined placement of those "labels" in the data structure Goldhor is different because Goldhor does not enable the operator to determine the location of a "label" in a data structure, Goldhor merely permits the operator to enter speech input Thus one can create customized structures using the present invention whereas one cannot do this using the system of Goldhor **Fourth**, in accordance with present claim 32, a "label" is associated with information which is

input and designated as "data " This is completely different from Goldhor which teaches providing a speech input and associating it with a translation As a result, Goldhor does not have an association between input "data" and a "label " This is completely different from the present invention where the "label" is associated with input information which has been designated as "data " **Fifth**, in accordance with present claim 32, first information is input and designated as "data" and second information is input information and designated as a "label " This is completely different from Goldhor wherein an operator enters speech input and there is no "label "

In light of all of the differences between the invention of present claim 32 and the disclosure of Goldhor, Applicant respectfully submits that present claim 32 is patentable over Goldhor

**Present claim 33** The analysis of the differences between the invention of present claim 33 and Goldhor is essentially the same as that given above for present claim 30 However, present claim 30 requires input and designation of "data" and "label" in response to user input before obtaining a location in the data structure for the "label" in response to user input whereas present claim 33 requires obtaining the location in the data structure for the "label" in response to user input before input and designation of "data" and "label" in response to user input Since all of the differences between the invention of present claim 30 and Goldhor which were noted above still exist for present claim 30, Applicant respectfully submits that present claim 33 is patentable over Goldhor

**Present claim 34** The analysis of the differences between the invention of present claim 34 and Goldhor is essentially the same as that given above for present claim 31 However, present claim 31 requires input and designation of "data" in response to user input and replay and designation of "label" in response to user input before obtaining a location in the data structure for the "label" in response to user input whereas present claim 34 requires obtaining the location in the data structure for the "label" in response to user input before input and designation of "data" in response to user input and replay and designation of "label" in response to user input Since all of the differences between the invention of present claim 31 and Goldhor which were noted above still exist for present claim 34, Applicant respectfully submits that present claim 34 is patentable over Goldhor

**Present claim 35** The analysis of the differences between the invention of present claim 35 and Goldhor is essentially the same as that given above for present claim 32 However

present claim 32 requires input and designation of "data" and "label" in response to user input before obtaining a location in the data structure for the "label" in response to user input whereas present claim 35 requires obtaining the location in the data structure for the "label" in response to user input before input and designation of "data" and "label" in response to user input Since all of the differences between the invention of present claim 32 and Goldhor which were noted above still exist for present claim 35, Applicant respectfully submits that present claim 35 is patentable over Goldhor

**Present claim 36** Goldhor does not teach, hint, or suggest in any manner whatsoever the method of storing information as "data" and for storing information as "labels" wherein a user defines labels which are associated with the "data" and wherein the user stores the labels in a data structure for several reasons **First**, in accordance with present claim 36, information is input and at least a portion of it is designated as a "label" while the information is being received from the user As was described above, this is completely different from Goldhor which does not teach or suggest that an operator designates speech input as a "label " In contrast to Goldhor, embodiments of the present invention require the user to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Goldhor and the present invention is that while Goldhor's operator does not designate speech input as a "label," the present invention requires the user to designate the information as being a "label" while the information is being received from the user A still further difference between Goldhor and the present invention is that, in accordance with the present invention, the "label" is extracted from the incoming information As a result, the user inputs information, designates it as "data" while it is being input, and designates all or a part of it as a "label" while it is being input This is different from Goldhor because Goldhor's system does not teach or suggest that an operator designate speech input as a "label " **Second**, in accordance with present claim 36, a data structure is traversed and a location in the data structure is indicated in response to user input The location is used to insert a "label" and the "label" is inserted in response to user input This is completely different from Goldhor which does not teach finding a location for a "label" in response to operator input In fact, it is just the opposite In accordance with the teaching of Goldhor, the operator has no way to determine the location of speech input which was designated as a "label" (there is no such designation) or to require the system to enter the speech input at that location as a "label " In contrast to Goldhor, embodiments of the present invention provide a flexible system wherein the user can determine a location in the data structure and cause the "label" to be inserted at that location As a result of this, in accordance with the

present invention, the user can define a customized access to the "data" through user-defined labels and user-defined placement of those "labels" in the data structure Goldhor is different because Goldhor does not enable the operator to determine the location of a "label" in a data structure, Goldhor merely permits the operator to enter speech input Thus, one can create customized structures using the present invention whereas one cannot do this using the system of Goldhor **Third**, in accordance with present claim 36, further information is input and designated as "data" by the user while the further information is being received from the user This is completely different from Goldhor which receives speech input which is always considered to be data and does not receive speech input which is designated as a "label " Thus, in accordance with Goldhor the operator cannot designate speech input as "data" or as a "label " In contrast to Goldhor embodiments of the present invention provide a much more flexible system since information which is to be designated as "data" and information which is to be designated as a "label" can be input by user input from the same device As a result, the user needs to inform the system (designate) whether the information being received is "data" or is a "label " A further difference in this regard between Goldhor and the present invention is that while Goldhor's operator does not designate speech input as being "data," the present invention requires the user to designate the information as "data" while the information is being received from the user **Fourth**, in accordance with present claim 36, a data structure is traversed and a location in the data structure is indicated in response to user input In accordance with present claim 36 the "label" at the location is associated with information which is input and designated as "data " This is completely different from Goldhor which does not teach or suggest that an operator search a data structure for "labels" since an operator cannot designate speech input as a "label" and an operator cannot search a data structure for a "label " Goldhor does teach associating speech input recognizer output with a text translation However, this is not the "label" and "data" association of the present invention since the operator has no control over access to a data structure of "labels" which is required by the present invention

In light of all of the differences between the invention of present claim 36 and the disclosure of Goldhor, Applicant respectfully submits that present claim 36 is patentable over Goldhor

**Present claim 37** The analysis of the differences between the invention of present claim 37 and Goldhor is essentially the same as that given above for present claim 36 However, present claim 36 requires input and designation "label" in response to user input before obtaining a

location in the data structure for the "label" in response to user input whereas present claim 37 requires obtaining the location in the data structure for the "label" in response to user input before input and designation of "label" in response to user input Since all of the differences between the invention of present claim 36 and Goldhor which were noted above still exist for present claim 37, Applicant respectfully submits that present claim 37 is patentable over Goldhor

**Present claim 38** Present claim 38 is an apparatus claim and the analysis of the differences between the invention of present claim 38 and Goldhor is essentially the same as that given above for present claim 30 Since all of the differences between the invention of present claim 30 and Goldhor which were noted above still exist for present claim 38, Applicant respectfully submits that present claim 38 is likewise patentable over Goldhor

**Present claim 39** Present claim 39 is an apparatus claim which depends from present claim 38 The analysis of the differences between the invention of present claim 38 and Goldhor has been set forth above However, the invention of present claim 39 is different from Goldhor for the further reason that, like the discussion of present claim 31 above, it includes means for conveying information to a user (replaying) and for designating at least a portion of it a "label" while the information is being conveyed to the user In light of all the differences between the invention of present claim 39 and Goldhor, Applicant respectfully submits that present claim 39 is patentable over Goldhor

**Present claim 40** Present claim 40 is an apparatus claim which depends from present claims 38-39 The analysis of the differences between the invention of present claims 38-39 and Goldhor has been set forth above However, the invention of present claim 40 is different from Goldhor for the further reason that, like the discussion of present claim 32 above, it includes means for receiving second information as input and for designating it as a "label" while the second information is being received from the user In light of all the differences between the invention of present claim 40 and Goldhor, Applicant respectfully submits that present claim 40 is patentable over Goldhor

**Present claim 41** Present claim 41 is an apparatus claim which depends from present claims 38-40 The analysis of the differences between the invention of present claims 38-40 and Goldhor has been set forth above However, the invention of present claim 41 is different from Goldhor for the following further reason An apparatus fabricated in accordance with present claim 41 comprises means retrieving information which includes a means for traversing

the data structure of "labels" and for providing an indication of a location in the data structure This is completely different from Goldhor Goldhor does not provide means for traversing a data structure of "labels" since Goldhor does not teach or suggest having a data structure of "labels " In light of all the differences between the invention of present claim 41 and Goldhor Applicant respectfully submits that present claim 41 is patentable over Goldhor

**Present claim 42** Present claim 42 is an apparatus claim which depends from present claims 38-41 The analysis of the differences between the invention of present claims 38-41 and Goldhor has been set forth above However, the invention of present claim 42 is different from Goldhor for the following further reason An apparatus fabricated in accordance with present claim 42 comprises means for deleting "labels" and associated information which includes a means for traversing the data structure "label" and for providing an indication of a location in the data structure This is completely different from Goldhor Goldhor does not provide means for traversing a data structure of "labels" since Goldhor does not teach or suggest having a data structure of "labels " In light of all the differences between the invention of present claim 42 and Goldhor, Applicant respectfully submits that present claim 42 is patentable over Goldhor

**Present claim 43** Present claim 43 is an apparatus claim which depends from present claims 38-42 The analysis of the differences between the invention of present claims 38-42 and Goldhor has been set forth above However, the invention of present claim 43 is different from Goldhor for the following further reason An apparatus fabricated in accordance with present claim 42 comprises means for switching the location of two "labels" in the data structure This is completely different form Goldhor since Goldhor does not teach, hint or suggest providing this capability in any manner whatsoever Further, in accordance with present claim 43, in switching "labels," the apparatus includes means for traversing the data structure of "labels" and for providing an indication of a first and an indication of a second location in the data structure of "labels " As was set forth above, this is completely different from Goldhor Goldhor does not provide means for traversing a data structure of labels since Goldhor does not teach or suggest having a data structure of "labels " In light of all the differences between the invention of present claim 43 and Goldhor, Applicant respectfully submits that present claim 43 is patentable over Goldhor

**Present claim 44** Present claim 44 is an apparatus claim which depends from present claim 38 The analysis of the differences between the invention of present claim 38 and Goldhor has been set forth above However, the invention of present claim 44 is different from

Goldhor for the following further reason An apparatus fabricated in accordance with present claim 44 comprises a search means which includes means for providing an indication of the location of a "label" in the data structure This is completely different from Goldhor Goldhor does not provide means for traversing a data structure of "labels" since Goldhor does not teach or suggest having a data structure of "labels" and since Goldhor does not teach or suggest providing an indication of a location in a data structure In light of all the differences between the invention of present claim 44 and Goldhor, Applicant respectfully submits that present claim 44 is patentable over Goldhor

**Present claim 45** Present claim 45 is an apparatus claim which depends from present claims 38 and 44 The analysis of the differences between present claims 38 and 44 and Goldhor has been set forth above In light of all the differences between the invention of present claim 45 and Goldhor Applicant respectfully submits that present claim 40 is likewise patentable over Goldhor

**Present claim 46** Present claim 46 is an apparatus claim which depends from present claims 38 and 44-45 The analysis of the differences between the invention of present claims 38 and 44-45 and Goldhor has been set forth above However, the invention of present claim 46 is different from Goldhor for the following further reasons An apparatus fabricated in accordance with present claim 46 includes means for indicating another location in the data structure of "labels" This is completely different from Goldhor Goldhor does not provide means for traversing a data structure of "labels" since Goldhor does not teach or suggest having a data structure of "labels " Further, Goldhor does not teach or suggest providing an indication of a location in a data structure Still further, Goldhor does not teach or even hint at providing a capability to identify one location in the data structure and to indicate the location of another In light of all the differences between the invention of present claim 46 and Goldhor, Applicant respectfully submits that present claim 46 is likewise patentable over Goldhor

**Present claim 47** Present claim 47 is an apparatus claim which depends from present claims 38-40 The analysis of the differences between the invention of present claims 38-40 and Goldhor has been set forth above However, the invention of present claim 41 is different from Goldhor for the following further reasons An apparatus fabricated in accordance with present claim 47 further includes means for searching a data structure of labels to provide the location in the data structure of a stored "label", for receiving and storing information and for designating it as data, and for causing the info input means to receive and store further

information, for causing the data to be associated with the stored label As was set forth above, this is completely different from Goldhor Goldhor does not provide means for traversing a data structure of "labels" since Goldhor does not teach or suggest having a data structure of "labels " In light of all the differences between the invention of present claim 47 and Goldhor, Applicant respectfully submits that present claim 47 is likewise patentable over Goldhor

**Present claims 48-57** Present claims 48-57 are apparatus claims The analysis of the differences between the inventions of present claims 48-57 and Goldhor are the same as those given above for the inventions of present claims 38-47 Since all of the differences between the inventions of present claims 38-47 and Goldhor which were noted above still exist for present claims 48-57, Applicant respectfully submits that present claims 48-57 are likewise patentable over Goldhor

**Combination of Izawa and Goldhor**

In addition, Applicant respectfully submits that there is no suggestion in either Izawa or Goldhor for combining these references Further, there is no reason evident why one of ordinary skill in the art would attempt to combine the teaching of these references Izawa relates to a storage system for information stored on floppy disk or information which is recorded on paper whereas Goldhor relates to a speech input system which translates speech input into text by recognizing words and phrases In accordance with Izawa, one produces documents which are comprised of pages which are stored on optical disk storage and a group of titles of the documents which are stored on magnetic disk In accordance with Goldhor, one produces text input to applications programs such as a word processor The techniques taught by Izawa have no use in Goldhor and vice versa For example, Izawa teaches providing a "title" for a document for use in subsequent retrieval whereas Goldhor does not Goldhor provides voice recognition of words and phrases in speech input and translates the words and phrases for use by an application program whereas Izawa does not

In addition, Applicant respectfully submits that even if Izawa and Goldhor were combined, one of ordinary skill in the art would not produce a method or apparatus like that covered by present claims 30-57 because, as has been discussed above in detail, both Izawa and Goldhor do not teach, hint or suggest most of the requirements of present claims 30-57 Since these requirements are missing from both references, Applicant respectfully submits that a combination of the references cannot supply what is missing from both

In light of the above, Applicant respectfully submits that present claims 30-57 are patentable over Izawa, whether taken by itself or in view of Goldhor

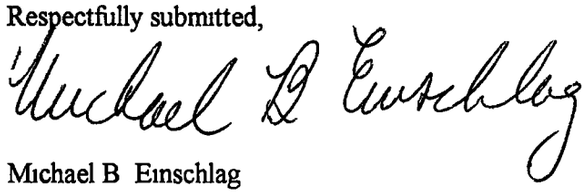
103 (As to claims 58-81)

Reasons why present claims 58-81 are separately patentable Applicant respectfully submits that present claims 58-81 are separately patentable over present claims 30-57 because present claims 58-81 are further limited in that the data structure of "labels" of present claims 30-57 is a hierarchical data base and because present claims 58-81 are further limited in that the information is audio information None of the prior art teaches, hints or even suggests method and apparatus for providing storage of audio information wherein a user is given the capability to create a hierarchical data structure of labels which enables a user to create customized random access to the stored audio information

Applicant respectfully submits that present claims 58-81 depend from present claims 30-57 Applicant respectfully submits that present claims 30-57 are patentable over Izawa, whether taken by itself or in view of Goldhor, for the reasons set forth above in detail As a result, since present claims 58-81 depend from present claims 30-57, Applicant respectfully submits that present claims 58-81 are also patentable over Izawa, whether taken by itself or in view of Goldhor Further, Applicant respectfully submits that present claims 58-81 are patentable over Izawa, whether taken by itself or in view of Goldhor, for the following further reasons Neither Izawa nor Goldhor teach, hint or suggest the storage of audio information wherein a user is given the capability to create a hierarchical data structure of "labels " This is because, neither Izawa nor Goldhor enables a user to develop a customized random access to stored "data " Izawa teaches storing floppy disk files or images of paper records on an optical disk However, Izawa does not teach or suggest that a user can create customized random access to the information stored on the optical disk Further, although Goldhor receives speech input (a form of audio information), recognizes it and converts it text, Goldhor does not teach or suggest that a user can create customized random access to stored audio information

In light of the above, Applicant respectfully submits that present claims 58-81 are patentable over Izawa, whether taken by itself or in view of Goldhor

Respectfully submitted,



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Appendix (Copy of Claims Involved in the Appeal)

30 Method for storing information provided by a user which comprises

in response to user input, receiving and storing information,

in response to user input, designating the information as data while the information is being received,

in response to user input, designating at least a portion of the information as a label while the information is being received,

in response to user input, traversing a data structure and providing an indication of a location in the data structure,

in response to user input, storing the label at the location in the data structure, and

associating the label with the data

31 Method for storing information provided by a user which comprises

in response to user input, receiving and storing information,

in response to user input, designating the information as data while the information is being received,

in response to user input, conveying the stored information to the user and designating at least a portion of the stored information as a label while the stored information is being conveyed,

in response to user input, traversing a data structure and providing an indication of a location in the data structure,

in response to user input, storing the label at the location in the data structure, and

associating the label with the data

32 Method for storing information provided by a user which comprises

in response to user input, receiving and storing first and second information,

in response to user input, designating the first information as data while the first information is being received,

in response to user input, designating the second information as a label while the second information is being received,

in response to user input, traversing a data structure and providing an indication of a location in the data structure,

in response to user input, storing the label at the location in the data structure, and

associating the label with the data

33 Method for storing information provided by a user which comprises

in response to user input, traversing a data structure and providing an indication of a location in the data structure,

in response to user input, receiving and storing information,

in response to user input, designating the information as data while the information is being received,

in response to user input, designating at least a portion of the information as a label while the information is being received,

in response to user input, storing the label at the location in the data structure, and

associating the label with the data

34 Method for storing information provided by a user which comprises

in response to user input, traversing a data structure and providing an indication of a location in the data structure,

in response to user input, receiving and storing information,

in response to user input, designating the information as data while the information is being received,

in response to user input, conveying the stored information to the user and designating at least a portion of the stored information as a label while the stored information is being conveyed,

in response to user input, storing the label at the location in the data structure, and

associating the label with the data

35 Method for storing information provided by a user which comprises

in response to user input, traversing a data structure and providing an indication of a location in the data structure,

in response to user input, receiving and storing first and second information,

in response to user input, designating the first information as data while the information is being received,

in response to user input, designating the second information as a label while the second information is being received,

in response to user input, storing the label at the location in the data structure, and

associating the label with the data

36 Method for storing information provided by a user which comprises

in response to user input, for receiving and storing information,

in response to user input, designating at least a portion of the information as a label while the information is being received,

in response to user input, traversing a data structure and providing an indication of a location in the data structure,

in response to user input, storing the label at the location in the data structure,

in response to user input, receiving and storing further information,

in response to user input, designating the further information as data while the data is being received,

in response to user input, traversing the data structure and providing an indication of the location in the data structure,

in response to user input, associating the label at the location with the data

37 Method for storing information provided by a user which comprises

in response to user input, traversing a data structure and providing an indication of a location in the data structure,

in response to user input, receiving and storing information,

in response to user input, designating at least a portion of the information as a label while the information is being received,

in response to user input, storing the label at the location in the data structure,

in response to user input, receiving and storing further information,

in response to user input, designating the further information as data while the data is being received,

in response to user input, traversing the data structure and providing an indication of the location in the data structure,

in response to user input, associating the label at the location with the data

38 Apparatus for storing information provided by a user which comprises

info input means, in response to user input, for receiving and storing information,

data means, in response to user input, for designating the information as data while the information is being received,

label means, in response to user input, for designating at least a portion of the information as a label while the information is being received,

search means, in response to user input, for traversing a data structure and for providing an indication of a location in the data structure,

means, in response to user input, for storing the label at the location in the data structure and

associating means, in response to user input, for associating the label with the data

39 The apparatus of claim 38 which further comprises

second label means, in response to user input, for conveying the stored information to the user and for designating at least a portion of the stored information as the label

40 The apparatus of claim 39 which further comprises

third label means, in response to user input

(a) for causing the info input means to receive and store further information, and

(b) for designating the further information as the label while the further information is being received

41 The apparatus of claim 40 which further comprises

retrieval means, in response to user input

(a) for traversing the data structure and for providing an indication of a location in the data structure,

(b) for conveying a label at the location to the user,

(c) for conveying information associated with the label, and

(d) for conveying all labels and their associated information from a preselected portion of the data structure

42 The apparatus of claim 41 which further comprises

deletion means, in response to user input

(a) for traversing the data structure and for providing an indication of a location in the data structure,

(b) for deleting a label at the location from the data structure,

(c) for deleting information associated with the label, and

(d) for deleting all labels and their associated information from a preselected portion of the data structure

43 The apparatus of claim 42 which further comprises

switching means, in response to user input

(a) for traversing the data structure and for providing an indication of a first and an indication of a second location, and

(b) for storing the label at the first location at the second location and for storing the label at the second location at the first location

44 The apparatus of claim 38 wherein the search means further comprises indicator means for providing an indication of the location

45 The apparatus of claim 44 wherein the indicator means comprises means for conveying a label at the location

46 The apparatus of claim 44 wherein the indicator means further comprises means for indicating another location in the data structure

47 The apparatus of claim 40 which further comprises

second associating means, in response to user input

(a) for causing the search means to traverse the data structure and for providing an indication of the location in the data structure of a stored label,

(b) for causing the info input means to receive and store further information,

(c) for causing the data means to designate the further information as data, and

(d) for associating the data with the stored label

48 Apparatus for storing information provided by a user which comprises

search means, in response to user input, for traversing a data structure and for providing an indication of a location in the data structure,

info input means, in response to user input, for receiving and storing information from the user,

data means, in response to user input, for designating the information as data while the information is being received,

label means, in response to user input, for designating at least a portion of the information as a label while the information is being received,

means, in response to user input, for storing the label at the location in the data structure, and

associating means, in response to user input, for associating the label with the data

49 The apparatus of claim 48 which further comprises

second label means, in response to user input, for conveying the stored information to the user and for designating at least a portion of the stored information as the label

50 The apparatus of claim 49 which further comprises

third label means, in response to user input

(a) for causing the info input means to receive and store further information, and

(b) for designating the further information as the label while the further information is being received

51 The apparatus of claim 50 which further comprises

retrieval means, in response to user input

(a) for traversing the data structure and for providing an indication of a location in the data structure,

(b) for conveying a label at the location to the user,

(c) for conveying information associated with the label, and

(d) for conveying all labels and their associated information from a preselected portion of the data structure

52 The apparatus of claim 51 which further comprises

deletion means, in response to user input

(a) for traversing the data structure and for providing an indication of a location in the data structure,

(b) for deleting a label at the location from the data structure,

(c) for deleting information associated with the label, and

(d) for deleting all labels and their associated information from a preselected portion of the data structure

53 The apparatus of claim 52 which further comprises

switching means, in response to user input

(a) for traversing the data structure and for providing an indication of a first and an indication of a second location, and

(b) for storing the label at the first location at the second location and for storing the label at the second location at the first location

54 The apparatus of claim 48 wherein the search means further comprises indicator means for providing an indication of the location

55 The apparatus of claim 54 wherein the indicator means comprises means for conveying a label at the location

56 The apparatus of claim 54 wherein the indicator means further comprises means for indicating another location in the data structure

57 The apparatus of claim 50 which further comprises

second associating means, in response to user input

(a) for causing the search means to traverse the data structure and for providing an indication of the location in the data structure of a stored label,

(b) for causing the info input means to receive and store further information,

(c) for causing the data means to designate the further information as data, and

(d) for associating the data with the stored label

58 The method of claim 30 wherein the information is audio information and the data structure is a hierarchical data structure

59 The method of claim 31 wherein the information is audio information and the data structure is a hierarchical data structure

60 The method of claim 32 wherein the first and second information is audio information and the data structure is a hierarchical data structure

61 The method of claim 33 wherein the information is audio information and the data structure is a hierarchical data structure

62 The method of claim 34 wherein the information is audio information and the data structure is a hierarchical data structure

63 The method of claim 35 wherein the first and second information is audio information and the data structure is a hierarchical data structure

64 The method of claim 36 wherein the information is audio information and the data structure is a hierarchical data structure

65 The method of claim 37 wherein the information is audio information and the data structure is a hierarchical data structure

66 The apparatus of claim 38 wherein the information is audio information and the data structure is a hierarchical data structure

67 The apparatus of claim 39 wherein the information is audio information and the data structure is a hierarchical data structure

68 The apparatus of claim 40 wherein the information and the further information is audio information and the data structure is a hierarchical data structure

69 The apparatus of claim 41 wherein the information and the further information is audio information and the data structure is a hierarchical data structure

70 The apparatus of claim 42 wherein the information and the further information is audio information and the data structure is a hierarchical data structure

71 The apparatus of claim 45 wherein the information comprises audio information and the data structure is a hierarchical data structure

72 The apparatus of claim 47 wherein the information and the further information is audio information and the data structure is a hierarchical data structure

73 The apparatus of claim 48 wherein the information is audio information and the data structure is a hierarchical data structure

74 The apparatus of claim 49 wherein the information is audio information and the data structure is a hierarchical data structure

75 The apparatus of claim 50 wherein the information and the further information is audio information and the data structure is a hierarchical data structure

76 The apparatus of claim 51 wherein the information and the further information is audio information and the data structure is a hierarchical data structure

77 The apparatus of claim 52 wherein the information and the further information is audio information and the data structure is a hierarchical data structure

78 The apparatus of claim 55 wherein the information comprises audio information and the data structure is a hierarchical data structure

79 The apparatus of claim 57 wherein the information and the further information is audio information and the data structure is a hierarchical data structure

80 The apparatus of claim 46 wherein (a) the information is audio information, (b) the data structure is a hierarchical data structure, and (c) the means for indicating another location comprises means for indicating whether the another location is above, below or on a same level in the hierarchical data structure

81 The apparatus of claim 56 wherein (a) the information is audio information, (b) the data structure is a hierarchical data structure, and (c) the means for indicating another location comprises means for indicating whether the another location is above, below or on a same level in the hierarchical data structure

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# IEEE Standard Dictionary of Electrical and Electronics Terms

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**data acquisition (station control and data acquisition)** The collection of data 403

**data acquisition system (station control and data acquisition)** A centralized system which receives data from one or more remote points A telemetering system Data may be transported by either analog or digital telemetering *See* **telemetering** 403

**data base (software)** (1) A set of data part or the whole of another set of data and consisting of at least one file that is sufficient for a given purpose or for a given data processing system (2) A collection of data fundamental to a system (3) A collection of data fundamental to an enterprise *See* **data, file, system** 434

**data communication equipment** The equipment that provides the functions required to establish maintain and terminate a connection as well as the signal conversion and coding required for communication between data terminal equipment and data circuit 12

**data communications (data transmission)** The movement of encoded information by means of communications techniques *See* **digital data** 59

**data dictionary (software)** (1) A collection of the names of all data items used in a software system together with relevant properties of those items for example length of data item representation etcetera (2) A set of definitions of data flows data elements files data bases and processes referred to in a leveled data flow diagram set *See* **data data base, data flow diagram, file, processes, software system** 434

**data flow chart** *See* **data flow diagram** 434

**data flow diagram (software)** A graphic representation of a system showing data sources data sinks storage and processes performed on data as nodes and logical flow of data as links between the nodes *Syn* **data flow graph, data flow chart** *See* **data, data flow chart data flow graph, node, processes, system** 434

**data flow graph** *See* **data flow diagram** 434

**data hold (data processing)** A device that converts a sampled function into a function of a continuous variable The output between sampling instants is determined by an extrapolation rule or formula from a set of past inputs 198

**data input (D) (semiconductor memory)** The inputs whose states determine the data to be written into the memory 441

**data input/output (DQ) (semiconductor memory)** The ports that function as data input during write operations and as data output during read operations 441

**data link (1) (data communication)** An assembly of data terminals and the interconnecting circuits operating according to a particular method that permits information to be exchanged between the terminals 12 194

**(2) (test, measurement and diagnostic equipment)** Any information channel used for connecting data processing equipment to any input output display device or other data processing equipment usually at a remote location 54

**data logger (power system communication)** A system to measure a number of variables and make a written tabulation and or record in a form suitable for computer input *See* **digital** 59

**data logging (1) (power switchgear)** An arrangement for the alphanumerical representation of selected quantities on log sheets papers magnetic tape or the like by means of an electric typewriter or other suitable devices 103

**(2) (station control and data acquisition)** The recording of selected data on suitable media 403

**data logging equipment** Equipment for numerical recording of selected quantities on log sheets or paper or magnetic tape or the like by means of an electric typewriter or other suitable device 103 202

**data output (Q) (semiconductor memory)** The outputs whose states represent the data read from the memory 441

**data processing** Pertaining to any operation or combination of operations on data 255 77

**data processor** Any device capable of performing or combination of operations on data 255 77

**data rate (station control and data acquisition)** The rate at which a data path (for example channel) carries data measured in bits per second (b/s) 403

**data reconstruction (date processing)** The conversion of a signal defined on a discrete time argument to one defined on a continuous time argument 198

**data reduction** The transformation of raw data into a more useful form for example smoothing to reduce noise 255 77 54

**data set (data transmission)** A modem serving as a conversion element and interface between a data machine and communication facilities *See* **modem** 59

**data sink (data transmission)** The equipment which accepts data signals after transmission 59

**data source (data transmission)** The equipment which supplies data signals that enter into a data link 59

**data stabilization (vehicle-borne navigation systems)** The stabilization of the output signals with respect to a selected reference invariant with vehicle orientation *See* **navigation** 187

**data structure (software)** A formalized representation of the ordering and accessibility relationships among data items without regard to their actual storage configuration *See* **data** 434

**data terminal (data transmission)** A device which modulates or demodulates or both data between one input-output device and a data transmission link 59

**data terminal equipment (data communication)** The equipment comprising the data source the data sink or both 12

**data transmission (data link)** The sending of data from one place to another or from one part of a system to another 59

**data type (software)** A class of data characterized by the members of the class and the operations that can

(4) (laser maser) The unit which expresses the frequency of a periodic oscillation in cycles per second 363

**Hertzian electric dipole (antennas)** An elementary source consisting of a time harmonic electric current element of specified direction and infinitesimal length *Notes* (1) The continuity equation relating current to charge requires that opposite ends of the current element be terminated by equal and opposite amounts of electric charge these amounts also varying harmonically with time (2) As its length approaches zero the current must approach infinity in such a manner that the product of current and length remains finite 111

**Hertzian magnetic dipole (antennas)** A fictitious elementary source consisting of a time harmonic magnetic current element of specified direction and infinitesimal length *Notes* (1) The continuity equation relating current to charge requires that opposite ends of the current element be terminated by equal and opposite amounts of magnetic charge these amounts also varying harmonically with time (2) As its length approaches zero the current must approach infinity in such a manner that the product of current and length remains finite (3) A magnetic dipole has the same radiation pattern as an infinitesimally small electric current loop 111

**heterodyne conversion transducer (converter)** A conversion transducer in which the useful output frequency is the sum or difference of (1) the input frequency and (2) an integral multiple of the frequency of another wave usually derived from a local oscillator *Note* The frequency and voltage or power of the local oscillator are parameters of the conversion transducer Ordinarily the output signal amplitude is a linear function of the input signal amplitude over its useful operating range 190 252 210 125

**heterodyne frequency** *See* **beats**

**heterodyne reception (beat reception)** The process of reception in which a received high frequency wave is combined in a nonlinear device with a locally generated wave with the result that in the output there are frequencies equal to the sum and difference of the combining frequencies *Note* If the received waves are continuous waves of constant amplitude as in telegraphy it is customary to adjust the locally generated frequency so that the difference frequency is audible If the received waves are modulated the locally generated frequency is generally such that the difference frequency is superaudible and an additional operation is necessary to reproduce the original signal wave *See* **superheterodyne reception** 328

**heterojunction (fiber optics)** A junction between semiconductors that differ in their doping level conductivities and also in their atomic or alloy compositions *See* **homojunction** 433

**heteropolar machine (rotating machinery)** A machine having an even number of magnetic poles with successive (effective) poles of opposite polarity *See* **asynchronous machine, direct-current commutating machine** 63

**heuristic** Pertaining to exploratory methods of problem solving in which solutions are discovered by evaluation of the progress made toward the final result *See* **algorithm** 255 77 54

**Hevea rubber** Rubber from the *Hevea brasiliensis* tree *See* **insulation**

**hexadecimal** (1) Pertaining to a characteristic or property involving a selection choice or condition in which there are sixteen possibilities (2) Pertaining to the numeration system with a radix of sixteen (3) More accurately called sexadecimal *See* **positional notation.** 77

**hexode** A six-electrode electron tube containing an anode a cathode a control electrode and three additional electrodes that are ordinarily grids 190 125

**$HE_{11}$mode (fiber optics)** Designation for the fundamental mode of an optical fiber *See* **fundamental mode** 433

**HF** *See* **radio spectrum** 146

**HF (high frequency)** A radar frequency band between 3 megahertz and 30 megahertz 13

**HF (high frequency) radar** A radar operating at frequencies between 3 to 30 megahertz 13

**hickey** (1) A fitting used to mount a lighting fixture in an outlet box or on a pipe or stud *Note* It has openings through which fixture wires may be brought out of the fixture stem (2) A pipe bending tool 328

**hierarchical decomposition (software)** A method of designing a system by breaking it down into its components through a series of top-down refinements *See* **components, functional decomposition modular decomposition, stepwise refinement, system top-down** 434

**hierarchy (software)** A structure whose components are ranked into levels of subordination according to a specific set of rules *See* **components levels** 434

**high conduction (HC) threshold voltage $v_{HC}$ (metal nitride-oxide field-effect transistor)** The threshold voltage level resulting from a write high pulse which puts the transistor into the HC (high-conduction) state 386

**high direct voltage (1) (power cable systems)** A direct voltage above 5000 volts (V) supplied by test equipment of limited capacity 437

**(2) (rotating machinery)** A direct voltage above 5000 V supplied by portable test equipment of limited capacity 6

**high energy piping (nuclear power generating station)** Piping serving as the pressure boundary for fluid systems that during normal plant conditions are either operating or maintaining temperature or pressure when the maximum operating temperature exceeds 200=F or the maximum operating pressure exceeds 275 pounds per square inch gauge (psig) 439

**high (H) level (logic)** A level with the more positive (less negative) of the two ranges of the logic levels chosen to represent the logic states 88

**higher order language (software)** A programming language that usually includes features such as nested